

First Hit Fwd Refs



L3: Entry 54 of 200

File: USPT

Oct 1, 2002

DOCUMENT-IDENTIFIER: US 6459907 B1

TITLE: Systems and methods for channel selection for facsimile communication over a wireless communication network

Application Filing Date (1):
19990727

Brief Summary Text (14):

In a system aspect of the present invention, a mobile terminal is provided including a portable housing and a wireless communication circuit in the housing and coupled to a wireless communication network having a first and second channel type. A line interface circuit is also provided in the mobile terminal including a facsimile input port and a protocol conversion circuit having an output connected to the wireless communication circuit. A connection line is provided connected to the wireless communication circuit. In addition, a switch is provided connecting one of an input of the protocol conversion circuit or the connection line to the facsimile input port responsive to a request from the wireless communication circuit. The wireless communication circuit in a particular embodiment includes means for requesting connection of the input of the protocol conversion circuit to the facsimile input port responsive to an indication from the wireless communication network that a channel of the first channel type is available for transmission of the facsimile and for requesting connection of the connection line to the facsimile input port responsive to an indication from the wireless communication network that a channel of the first channel type is not available for transmission of the facsimile. A means for transmitting the facsimile on the wireless communication network over a channel of the first channel type and a channel of the second channel type is also provided.

Detailed Description Text (11):

The mobile terminal 10 further includes a protocol conversion circuit 54 or other means for converting the protocol of a received facsimile image from a first transmission protocol to a second transmission protocol. For example, in one embodiment of the present invention suitable for use where the wireless communication network 30 is an IS-136 protocol network, the protocol conversion circuit 54 is configured to convert a Group 3 type facsimile in T.30 protocol to an IS-135 protocol for transmission of the facsimile image over a digital channel of the IS-136 network. While the protocol conversion circuit 54 is shown as separate from the wireless communication circuit 42, it is to be understood that the protocol conversion circuit 54 may be implemented in software code which code may be executed by a processor which also executes code implementing digital traffic support circuit 46 and analog voice support circuit 48.

Detailed Description Text (15):

On receipt of the channel type information from the wireless communication circuit 30, wireless communication circuit 42, through select line 60, provides a means for requesting connection of the input of the protocol conversion circuit 54 to the facsimile input port 52 on receipt of an indication from the wireless communication network 30 that a channel of a first channel type is available for transmission of the facsimile and for requesting connection of the connection line 56 to the facsimile input port 52 responsive to receipt of an indication from the wireless

communication network 30 that a channel of the first channel type is not available for transmission of the facsimile but a channel of the second type is available. The wireless communication circuit 42 is, accordingly, configured to provide means for transmitting the facsimile on a wireless communication network over a channel of either the first or the second channel type, such as a digital traffic channel or an analog voice channel.

Detailed Description Text (18):

The channel allocation circuit 76 provides means for determining the availability of a first or second channel type such as a digital traffic or an analog voice channel at the time of receipt of request to transmit a facsimile. It further provides a means for designating a channel of the first channel type, such as the digital traffic channel, if such a channel is available and, alternatively, of designating a channel of the second channel type, such as an analog voice channel, if a channel of the first channel type is not available but a channel of the second channel type is available. In one embodiment, the facsimile transmission is of a Group 3 type facsimile and the wireless communication network 30 is an IS-136 protocol wireless communication network supporting both digital and analog communication channels.

Detailed Description Text (24):

The protocol for transmission of the facsimile may be received at block 100 as a T.30 or other protocol associated with facsimile images such as Group 3 type facsimile images. Furthermore, the facsimile protocol conversion operations at block 108 may then convert the T.30 protocol to an IS-135 protocol suitable for use in transmissions over digital traffic channels such as those supported by IS-136 protocol wireless communication networks.

CLAIMS:

8. A mobile terminal according to claim 7 wherein the wireless communication circuit includes: means for requesting connection of the input of the protocol conversion circuit to the facsimile input port responsive to an indication from the wireless communication network that a channel of the first channel type is available for transmission of the facsimile and for requesting connection of the connection line to the facsimile input port responsive to an indication from the wireless communication network that a channel of the first channel type is not available for transmission of the facsimile; and means for transmitting the facsimile on the wireless communication network over a channel of the first channel type and a channel of the second channel type.